

Application No.: 10/574,824

Docket No.: 06005/41114

LISTING OF CLAIMS

1. (Currently Amended) A method of providing a user interface for a process plant, the method comprising the steps of:

~~generating information for a plurality of content layers of a process graphic display of process plant elements of the process plant, executing in a processor a process graphic display stored in a memory, the process graphic display (a) depicting on a display device process plant elements of the process plant, (b) operable to display on the display device each of a plurality of content layers, and (c) implementing~~ representing one or more smart process objects, each of which smart process objects includes information for the plurality of content layers, wherein the information for the plurality of content layers of the process graphic display includes:

(1) a set of graphic display elements common to each of the content layers, the set of graphic display elements illustrating a set of interconnected plant equipment to be illustrated in each of the plurality of content layers and

(2) ~~a set of content layer unique display information to be displayed in conjunction with the common set of graphic display elements for each of the different ones of the content layers, the set of information unique to the content layer;~~

~~generating information for the plurality of content layers;~~

determining a content layer of the plurality of content layers to display via the user interface; and,

displaying via the user interface the determined content layer of the plurality of content layers,

wherein each of the different ones of the content layers is customized for a different type of user.

2. (Previously Presented) The method of claim 1, wherein the generating step comprises processing runtime data received from the process plant in connection with the process plant elements.

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3. (Original) The method of claim 2, wherein the determining step comprises selecting the determined content layer based on a user profile characteristic, wherein the user profile characteristic comprises an indication for operator access, and wherein the displaying step comprises rendering an operator content layer of the plurality of content layers based on the runtime data.

4. (Original) The method of claim 1, wherein the generating step comprises processing simulation data in connection with simulated operation of the process plant elements.

5. (Previously Presented) The method of claim 4, wherein the user profile characteristic comprises an indication for maintenance access, and wherein the displaying step comprises rendering a maintenance content layer of the plurality of content layers based on the simulation data.

6. (Original) The method of claim 4, further comprising introducing simulated disturbances into the simulated operation of the process plant elements.

7. (Previously Presented) The method of claim 6, wherein the user profile characteristic comprises an indication for training instructor access, and wherein the displaying step comprises rendering an instructor content layer of the plurality of content layers to support the introducing step.

8. (Canceled)

9. (Original) The method of claim 1, wherein the generating step comprises implementing object methods defined in a plurality of objects respectively modeling the process plant elements depicted in the process graphic display.

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10. (Original) The method of claim 9, wherein each object of the plurality of objects further defines a graphical depiction of the process plant element for each content layer of the plurality of content layers.

11. (Currently Amended) A user interface system for a process plant having a process plant element, the system comprising:
a computer-readable medium;
a display device;
an object comprising information stored in the computer-readable medium regarding operation of the process plant element; and,
an execution engine to utilize the object information in a runtime environment to generate content for a plurality of content layers of a process graphic display, wherein the object information includes:

(1) a set of graphic display elements common to each of the content layers, the set of graphic display elements illustrating a set of interconnected plant equipment to be illustrated in each of the plurality of content layers and

(2) ~~a set of content layer unique display~~ information to be displayed in conjunction with the common set of graphic display elements for each of the different ones of the content layers, the set of information unique to the content layer;

wherein the display device depicts a specified content layer of the plurality of content layers and wherein each of the different ones of the content layers is customized for a different type of user.

12. (Previously Presented) The user interface system of claim 11, wherein the object information relates to receiving runtime data from the process plant in connection with on-line operation of the process plant element.

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13. (Original) The user interface system of claim 12, wherein the specified content layer is determined based on a user profile characteristic, and wherein the user profile characteristic comprises an indication for operator access such that the specified content layer is directed to a customized depiction of the runtime data in an operator content layer of the plurality of content layers.

14. (Original) The user interface system of claim 11, wherein the object information relates to generating simulation data in connection with simulated operation of the process plant element.

15. (Original) The user interface system of claim 14, wherein the specified content layer is determined based on a user profile characteristic, and wherein the user profile characteristic comprises an indication for maintenance access such that the specified content layer is directed to a customized depiction of the simulation data in a maintenance content layer of the plurality of content layers.

16. (Original) The user interface system of claim 14, wherein the object comprises further information related to a simulated disturbance of the simulated operation of the process plant element.

17. (Original) The user interface system of claim 16, wherein the specified content layer is determined based on a user profile characteristic, and wherein the user profile characteristic comprises an indication for training instructor access such that the specified content layer is directed to a customized depiction of the simulation data arising from the simulated disturbance in an instructor content layer of the plurality of content layers.

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18. (Currently Amended) A method of providing a user interface for a process plant, the method comprising the steps of:

generating content for a plurality of different types of users of the user interface by processing data regarding on-line and simulated operation of the process plant; [[and,]]

executing a display module operable to render on a display device each of a plurality of customized depictions of the process plant; and

rendering a selected portion of the content in [[a]] one of the plurality of customized depiction depictions of the process plant by determining the selected portion of the content in accordance with a current user type of the plurality of different user types, wherein the selected portion of the content includes:

(1) a set of graphic display elements common to each of [[a]] the plurality of customized depictions, the set of graphic display elements illustrating a set of interconnected plant equipment to be illustrated in the customized depiction for each of the plurality of different user types and

(2) a set of depiction-specific display information to be displayed in conjunction with the common set of graphic display elements for the current user type that differs for each of the plurality of different user types,

wherein each graphic display element has associated with it the set of depiction-specific display information for each of the plurality of customized depictions .

19. (Original) The method of claim 18, wherein the rendering step comprises determining whether the process plant is on-line to further determine the selected portion of the content for the customized depiction.

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20. (Currently Amended) A method of configuring a user interface for a process plant, the method comprising the steps of:

creating a process graphic display of a plurality of graphic display elements representative of a plurality of process plant elements of the process plant, respectively, the process graphic display operable to display on a display device each of a plurality of content layers for selectively displaying information related to on-line and simulated operation of the process plant elements;

configuring the plurality of graphic display elements by defining parameters related to on-line operation of the corresponding process plant elements and by defining simulation parameters to support simulated operation of the corresponding process plant elements; and,

~~establishing a plurality of content layers for selectively displaying information related to the on-line and simulated operation of the process plant elements via customized views of the process graphic display, wherein each of the plurality of content layers~~ is used to create a customized view of the process graphic display and includes:

(1) a set of graphic display elements common to each of the content layers, the set of graphic display elements illustrating a set of interconnected plant equipment to be illustrated in the content layer and

(2) ~~a set of content layer unique display~~ information to be displayed in conjunction with the common set of graphic display elements for a particular content layer that differs for each of the plurality of content layers, the set of information unique to the content layer,

wherein each of the graphic display elements has associated with it content layer information for each of the plurality of content layers and

wherein the content layer unique display information for each of the plurality of content layers is customized for a different type of user.

**Reply under 37 CFR 1.116
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21. (Original) The method of claim 20, further comprising the step of storing a plurality of objects for the plurality of graphic display elements, respectively, wherein each object includes the parameters related to on-line operation and the simulation parameters.